

NOTE

Hypothalamo-neurosecretory system of the marine teleost, *Sphyraena obtusata* Cuvier

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ABSTRACT

Hypothalamus of *Sphyraena obtusata* (Family : Sphyraenidae) comprises nucleus preopticus (NPO), nucleus lateralis tuberis (NLT) and their axonal tracts. NPO is a paired structure situated on either side of the third ventricle anterodorsal to the optic chiasma. It is a highly vascularised structure and look inverted L-shape in sagittal section. NPO is divisible into a dorsal pars magnocellularis (PMC) consisting of large neurosecretory cells and pars parvocellularis (PPC) formed of smaller neurons. NLT cells are distributed uniformly in the infundibular floor adjacent to the pituitary stalk. Neurons of PMC and PPC contribute beaded axons to form neurohypophysial tract. Neurosecretory colloid - like material of varying sizes are encountered in NPO. Herring bodies are seen in the anterior as well as posterior neurohypophysis.

In the vertebrate brain hypothalamus is a strategic point that mediates the organismic endocrine responses and adjust to the environmental changes (Ball, 1981). It comprises groups of neurosecretory cells which control the secretion of various trophic hormones of the pituitary gland by releasing (-RH) or inhibiting (-IH) hormones (Maksimovich, 1987). Hypothalamus also contains receptors specifically sensitive to the hormones which, in turn, regulate its activity through feedback mechanism (Peter *et al.*, 1991). There are increasing evidences to the effect that in fishes too, the hypophysial functions

are controlled by the hypothalamic neurohormones but the regulatory mechanisms are not precisely understood (Peter *et al.*, 1991).

Though several workers have recorded the hypothalamus of various teleostean species inhabiting freshwater (Ball, 1981; Maksimovich, 1987), such studies are very few among the marine fishes (Zolotnitskiy, 1980; Maksimovich, 1987; Pandey, 1993; Pandey and Mohamed, 1993). An attempt has therefore, been made to record the hypothalamo - neurosecretory system of the marine teleost, *Sphyraena obtusata*. Cuvier.

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xine (CAHP) and acid fufuissin in

Fig. 4. **Ventral** portion of I'MO of maturing male *Sphyræna obliisala*. Note; the decrease in size of **neurosecretory cells**. **Mallory's** triple x 1,000.

have also **been recorded in the** NPC) **of***

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>>> j = 1
>>> while j <= 10:
>>>     print(j)
>>>     j = j + 1
>>>
S'M, 10
1
2
3
4
5
6
7
8
9
10

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[illegible]

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